

CITY OF ST. HELENA

OVERVIEW

Beginning in the mid-1800s, the community of St. Helena emerged as the agricultural trading and shipping center for the Napa Valley. Originally settled as part of General Mariano Vallejo's land grant in the 1830s, St. Helena quickly developed as the commercial base for local farmers and ranchers due to its central location within the Valley. St. Helena commercial base was expanded to include tourism following the opening of the White Sulphur Springs Hotel in 1855, Napa County's first spa resort. By the 1860s, the Napa Valley Railroad Company, the precursor to future branches of the Central Pacific Railroad and Southern Pacific Railroad Companies, was extended north from Napa City to include stops in Yountville, Oakville, Rutherford, and St. Helena. Notably, the arrival of the railroad coincided with an influx of European immigrants, prompting the development of vineyards as the Valley's principal commerce.

St. Helena was incorporated in 1876.¹ Over the next several decades, the City's commercial base continued to expand as local vineyards flourished. The early success of vineyards in the latter part of the 1800s led to the development of permanent commercial and residential areas along Main Street in St. Helena. In 1878, the City's first potable water system was developed and operated by the St. Helena Water Company following the construction of York Creek Dam and St. Helena Lower Dam. This system was purchased by the City in 1922 and consisted of water drawn from York Creek (tributary of the Napa River) by means of a concrete diversion structure and stored at two off-stream reservoirs, Upper and Lower Reservoir. York Creek continued to serve as a potable water source until 1980 when increased water quality standards prompted the City to abandon Upper Reservoir and convert Lower Reservoir to a non-potable water source for local irrigation and construction use.

St. Helena's development was tempered in 1920 after the United States Congress passed the National Prohibition Act. The passage of prohibition, which outlawed the sale of alcohol in the United States, led to the closure and abandonment of a number of vineyards in the Napa Valley and limited growth in St. Helena for several years thereafter. Following the repeal of prohibition in 1933, a renewed interest in winemaking emerged facilitating an increase in growth and tourism throughout the Valley. To meet increased system demands during this period, the City augmented its water supply by enlarging the storage capacity of Lower Reservoir in 1935 and constructing an emergency interconnection with the City of Napa's distribution system near Rutherford in 1948. In 1959, the City completed construction on Bell Canyon Dam allowing it to begin diverting and storing water drawn from Bell Canyon Creek, a tributary of the Napa River. The result was the creation of Bell Canyon Reservoir, which quickly became the City's lead water source with an original maximum storage capacity of 1,800 acre-feet.

¹ St. Helena was reincorporated in 1889.

The development of additional water supplies proved timely as continued growth within St. Helena resulted in increased water demands. Between 1970 and 1980, the City's population surged from 3,173 to 4,898, a growth increase of nearly 55 percent. In 1973, in response to the influx of commercial and tourist related development, St. Helena's City Council issued an advisory ballot asking residents to indicate preferred growth policies for the City. The majority of residents responding to the advisory ballot favored implementing slow growth measures to maintain the City's small-town and agricultural character. Two years later, the City Council adopted St. Helena's first general plan, implementing growth restrictions and placing limits on tourist related establishments.

In the 1980s, growth pressures stemming from the 1970s proved taxing to St. Helena's available water supply. In addition, increased federal and state water quality standards required the City to improve the level of treatment for water drawn from York and Bell Creeks. In 1980, to comply with higher water quality standards for water drawn from Bell Creek, the City completed construction on the Louis Stralla Water Treatment Plant. At the same time, however, the City elected to abandon its use of York Creek as a potable water source in lieu of constructing a second water treatment facility. The City's water supply was further taxed as a result of the 1987-1992 drought. To meet system demands during this period, the City initiated mandatory water restrictions in 1987, 1988, 1989 and 1991. These restrictions placed limits on residential and non-residential water uses such as landscaping and resulted in the adoption of permanent water conservation regulations. These regulations provide thresholds relating to the implementation of volunteer and mandatory water conservation programs based on current storage and consumption rates.

In 1992, to alleviate water restrictions, St. Helena developed a municipal well near the crossing of Pope Street and the Napa River. Referred to as the "Stonebridge Well," the well connects directly to the City's distribution system and is used to supplement the Bell Canyon Reservoir during peak demand periods as well as periods when the Louis Stralla Water Treatment Plant is off-line for maintenance. A second municipal well was developed next to the original Stonebridge well in 1996.

In 2000, to improve its future water supply, St. Helena participated in a water transfer agreement between the Napa County Flood Control and Water Conservation District (NCFCWCD) and the Kern County Water Agency (KCWA). Negotiated on behalf of the five cities, the water transfer agreement specified the terms and conditions for NCFCWCD to permanently purchase 4,025 acre-feet of annual SWP entitlement from KCWA. St. Helena's annual share of the Kern County water transfer is 1,000 acre-feet. St. Helena's access to this entitlement, however, is contingent on the City making its own arrangements for transporting SWP water stored at the Napa Turnout Reservoir in Jameson Canyon to its distribution system.² In the interim, due to infrastructure costs and capacity restrictions associated with the North Bay Aqueduct, the City has elected to sell its annual entitlement to other Napa County SWP subcontractors while exploring opportunities to take delivery of this water in the future.

² St. Helena's existing transmission line that connects to the City of Napa's distribution system near the intersection of State Highways 29 and 128 in Rutherford does not have adequate capacity to deliver SWP entitlement.

In 2003, St. Helena issued its first *Urban Water Management Plan*. This plan addresses water supply and demand issues for the City through 2020, and highlights the potential for additional water supplies. The plan recommends the City evaluate the feasibility of enlarging Bell Canyon Reservoir and constructing a treatment facility at Lower Reservoir to increase available water supplies.

In addition to offering potable water service, St. Helena is in the process of developing a comprehensive reclaimed water service project aimed at reducing its annual potable water demand by approximately 1,000 acre-feet. Notably, the project would reduce potable water demands by providing an alternative water supply for landscaping and irrigation uses. Currently, the City produces restricted (secondary) reclaimed water that meets federal and state water quality standards for non-edible crops and certain industrial and landscaping uses. This treated wastewater is stored in a 100 acre-foot reservoir pond next to its wastewater treatment plant and sprayed on nearby fields to reduce storage volume. The project would increase the level of wastewater treatment to tertiary, allowing for unrestricted landscaping and irrigation use on parks, schools, and vineyards, while alleviating the City's dry-season storage requirements.³ In addition, the project would enable the City to develop a conjunctive use program with local agricultural users. This would involve supplying contracted users currently on well water with unrestricted reclaimed water in lieu of extracting groundwater. In exchange, the City would then draw from these wells during dry periods when surface supplies are limited. The City is currently in the process of preparing an Environmental Impact Report and anticipates completing the first phase of the project in 2005. Upon completion of all three planned construction phases, the project is anticipated to cost approximately \$16,000,000.

GOVERNANCE

St. Helena was incorporated in 1876 as a general-law city and is governed by a four-member city council and a directly elected mayor. Elections are conducted by general vote; the mayor serves a two-year term while the four city councilmembers serve staggered four-year terms. A city manager is appointed to oversee and implement policies on behalf of St. Helena's governing body and to provide oversight of the City's seven departments: finance, fire, library, planning, police, public works, and recreation. In 1993, the City Council adopted an update to its 1975 General Plan outlining land use development policies for the City through 2010⁴. St. Helena's City Council meetings are conducted on the second and fourth Tuesday of each month at the City Council Chambers. Meetings are open to the public.

³ The San Francisco Bay Regional Water Quality Control Board prohibits discharge of treated wastewater to the Napa River between May and October when flow rates are insufficient to handle discharges.

⁴ St. Helena's 1993 General Plan identifies the City's maximum holding capacity as 7,450. Along with land use policies identified in the General Plan, development in St. Helena is limited in accordance to the City's Residential Growth Management System. Originally implemented in 1979, the Residential Growth Management System restricts new residential development to a maximum rate of 17 dwelling units per year.

OPERATIONS

St. Helena's water system is maintained and operated by the City's Public Works Department, Water Operations Division. A public works director is appointed by the city manager to oversee and manage the water operations division's two sections: treatment and distribution. Designated staff is on call 24 hours a day, 7 days a week, to respond to any reported emergencies. As of March 2003, this division consisted of seven employees.

ADOPTED BOUNDARIES

St. Helena's incorporated boundary is comprised of two non-contiguous areas consisting of 3,285 acres. St. Helena's adopted sphere of influence encompasses the majority of its incorporated boundary with two notable exceptions: Bell Canyon Reservoir and the Howell Mountain Road area. The City's water service area extends outside its incorporated boundary to include several properties north along State Highway 29 to Lodi Lane, and south along State Highway 29 to Niebaum Lane. In addition, the City provides outside water service to the Meadowood Resort and a nearby residential area along Madrone Knoll Lane. Land use designations for St. Helena are defined in the City's General Plan.

St. Helena – Adopted Boundaries	
Incorporated Boundary:	3,285 acres *
Sphere of Influence Boundary:	2,929 acres *

* Figures are approximations calculated using information generated by County of Napa's geographic information system.

WATER SUPPLY

St. Helena's potable water supply is drawn from two sources: Bell Canyon Reservoir and two municipal wells collectively known as the "Stonebridge Wells." Water drawn from Bell Canyon Reservoir is supplied by Bell Creek, a tributary of the Napa River. St. Helena's water rights to Bell Creek are secured through two licenses from the State Water Resources Control Board, Division of Water Rights. These two licenses authorize St. Helena to divert and store up to 3,800 acre-feet of water annually from Bell Creek for beneficial use. Bell Canyon Reservoir was formed following the construction of the Bell Canyon Dam in 1959 and has a maximum storage capacity of 2,350 acre-feet. The City's *Urban Water Management Plan (2003)* identified an annual safe yield for Bell Canyon Reservoir of 1,600 acre-feet based on annual runoff production during the 1986-1991 drought.⁵ In addition, the plan identified a safe yield for a critically dry year of 850 acre-feet based on annual runoff production during the 1976-1977 drought. Bell Canyon

⁵The *Urban Water Management Plan (2003)* notes that Bell Canyon Reservoir's safe yield during multiple dry years could be reduced to 1,330 acre-feet to account for minimum water releases required by the California Department of Fish and Game for downstream fish populations.

Reservoir is located northeast of St. Helena and is used as the lead water source throughout the year.

Water drawn from the Stonebridge Wells is used as a supplemental source to Bell Canyon Reservoir. The Stonebridge Wells consist of two adjacent wells developed in 1992 and 1996 located near the crossing of Pope Street and the Napa River. These wells are referred to as “Stonebridge Well No. 1” and “Stonebridge Well No. 2,” and have current daily production rates of .346 and .467 million gallons respectively. In 1998, the City adopted an ordinance restricting its use of groundwater to a maximum of 20 percent of its total system demand under normal conditions. In 2001, the City adopted a second ordinance increasing its use of groundwater to a maximum of 30 percent of its total system demand if storage levels at Bell Canyon Reservoir fall below designated operating levels throughout the year.⁶

In addition to its two potable water sources, St. Helena maintains a non-potable water source based on a pre-1914 appropriative water right to York Creek, a tributary of the Napa River. St. Helena’s water right to York Creek enables it to divert and store up to 160 acre-feet of water annually at the City’s Lower Reservoir. Lower Reservoir was formed following the construction of St. Helena Lower Dam in 1878 by the St. Helena Water Company, and through subsequent raises has a maximum storage capacity of approximately 225 acre-feet. Due to the cost associated with meeting increased federal and state water quality standards, St. Helena has not used water stored at the Lower Reservoir as part of its potable supply since 1980. Raw water drawn from the Lower Reservoir is currently used for landscape irrigation at the Robert Louis Stephenson Middle School and the Spring Mountain Winery.⁷

St. Helena – Available Water Supply (acre-feet)	
Bell Canyon Reservoir:	2,350 acre-feet
Stonebridge Well No. 1:	388 acre-feet *
Stonebridge Well No. 2:	523 acre-feet **
TOTAL:	3,261 acre-feet***

- * Estimate based on current production rate of .346 million gallons per day. St. Helena restricts its use of groundwater to no more than 20 percent of its total system demand under normal conditions, and 30 percent during drought conditions.

⁶ Since 1992, St. Helena has withdrawn an annual average of 274 acre-feet of groundwater from its Stonebridge Wells.

⁷ In the past, local construction firms have also purchased raw water drawn from Lower Reservoir. However, as of 2003, St. Helena has stopped allowing construction firms to purchase water from Lower Reservoir until an improved permitting system can be developed. The Robert Louis Stephenson Middle School and Spring Mountain Winery currently pay a flat usage rate of \$0.61 and \$0.63 per 748 gallons respectively.

- ** Estimate based on current production rate of .467 million gallons per day. St. Helena restricts its use of groundwater to no more than 20 percent of its total system demand under normal conditions, and 30 percent during drought conditions.
- *** Total available water supply does not include storage capacity at the Lower Reservoir, which is used as an independent raw water source.

WATER DEMAND

In 2002, St. Helena delivered approximately 637.4 million gallons (1,956 acre-feet) of potable water, resulting in an approximate daily average of 1,746,467 gallons. The City's maximum day water demand was approximately 3.729 million gallons. The City currently provides water service to 2,458 connections. Of this amount, 355 water connections are located outside of the City.⁸

St. Helena – 2002 Water Demand	
Annual Water Demand:	637.4 million gallons
Average Daily Water Demand:	1,746,467 gallons
Maximum Day Water Demand:	3.729 million gallons *
Water Connections:	2,458
Population Served:	8,111 **

- * Title 22 of the California Code of Regulations requires that sufficient water be available from the water sources and distribution reservoirs to adequately and dependably meet the requirements of all users under maximum demand conditions.
- ** Calculated in accordance with Title 22 of the California Code of Regulations §64412(a)(2).

Projected water demands for St. Helena were identified in its *Urban Water Management Plan (2003)*. The plan identified projected water demands for St. Helena through 2020 over the course of designated planning periods: 2005, 2010, 2015, and 2020. These demands were developed by calculating population projections identified in the City's *Water Master Plan – Water Demand Element Update (1999)* with current per capital water consumption rates for both inside and outside customers along with a fixed landscaping demand for its entire service area.⁹

⁸ In 1964, St. Helena's City Council adopted Resolution No. 577 prohibiting new water connections outside its incorporated boundary. In 2003, the City Council adopted Ordinance No. 2003-5 codifying the provisions of Resolution No. 577 as part of St. Helena's Municipal Code.

⁹ Population estimates based on growth projections issued by the Association of Bay Area Governments.

St. Helena – Projected Water Demands (acre-feet)				
Year	Inside *	Outside **	Landscape	Total
2005	1,555	335	90	1,980
2010	1,580	335	90	2,005
2015	1,606	335	90	2,031
2020	1,631	335	90	2,056

* Projected demand based on an average per capita use of 228 gallons.

** Projected demand based on an average per capita use of 413 gallons (the plan assumes that no additional water connections will be approved outside St. Helena's incorporated boundary: thereby eliminating future demand increases for outside water service)

WATER TREATMENT FACILITIES

St. Helena provides treatment of raw water generated from Bell Canyon Reservoir at the Louis Stralla Water Treatment Plant (WTP). The Louis Stralla WTP was constructed in 1980 and receives raw water released from Bell Canyon Reservoir's inlet tower through 24-inch and 18-inch transmission lines. The treatment process begins as potassium permanganate (disinfectant) is added to the raw water along with alum and non-ionic polymer (coagulants). Solids are removed as raw water passes through flocculation and sedimentation basins. Settled water is treated with chlorine (disinfectant), filtered, and treated again with chlorine and caustic soda (reduces pH levels) before pumps lift the water to a 84,700 gallon clearwell tank. The clearwell tank completes the disinfection process by facilitating the necessary contact time between the chlorine and treated water. Finished water remains in the clearwell tank until storage levels within St. Helena's distribution system require recharge. Although the Louis Stralla WTP has a design daily treatment capacity of 4.3 million gallons, operating constraints associated with its differential pressure gauge limit its daily treatment capacity to 3.5 million gallons.

Raw water drawn from Stonebridge Well No. 1 and Stonebridge Well No. 2 is treated at the Stonebridge Water Treatment Facility (WTF). The Stonebridge WTF was constructed in 1992 and is comprised of a greensand filtering system to remove iron and manganese. Following its filtration, groundwater is disinfected with chlorine before entering the distribution system. Estimated daily treatment capacity when both wells are operating is 0.74 million gallons.

Louis Stralla Water Treatment Plant	
Water Source:	Bell Canyon Reservoir
Treatment Capacity:	2,430 gallons per minute; or 3.5 million gallons per day
Clearwell Storage Capacity:	84,700 gallons

Stonebridge Water Treatment Facility	
Water Source:	Stonebridge Well No. 1 Stonebridge Well No. 2
Treatment Capacity:	513 gallons per minute; or 0.74 million gallons per day

DISTRIBUTION SYSTEM AND STORAGE FACILITIES

St. Helena's distribution system receives and distributes potable water generated from the Louis Stralla WTP and the Stonebridge WTF. The distribution system overlays four pressure zones and is served (recharge and system pressure) by six treated water storage tanks. "Zone 1" serves as the City's primary pressure zone underlaying almost the entire distribution system and includes approximately 2,369 service connections. The City's remaining three pressure zones serve outlying residential areas within the distribution system and all draw water from Zone 1 through separate pumping stations. "Zone 2" includes approximately 38 service connections on the western side of the City in the vicinity of Dean York Lane and draws water from Zone 1 through the Spring Mountain Pump Station. "Zone 3" includes approximately seven service connections along the northwest perimeter of the City and draws water from Zone 1 through a separate pump station. This pump station lifts water to a 10,000 gallon treated storage tank, which supplies pressure and storage for customers within this zone. "Zone 4" includes approximately 44 service connections directly northeast of the City serving the Meadowood Resort and the Madrone Knoll residential area and draws water from Zone 1 through the Meadowood Pump Station. This pump station lifts water to three 66,000 gallon treated storage tanks, which supplies pressure and storage for customers within this zone.

St. Helena's distribution system operates on a supply and demand basis and responds to storage levels within Zone 1. Zone 1 is served by a 1.4 million gallon treated storage tank located next to the Louis Stralla WTP and a 2.7 million gallon treated storage tank located next to the Lower Reservoir. These tanks are respectively referred to as "Storage Tank No. 1" and "Storage Tank No. 2." When storage levels within Storage Tank No. 1 fall below a designated operating level, potable water is released and pumped from the Louis Stralla WTP's clearwell tank to Storage Tank No.1 for recharge. An 18-inch transmission line conveys potable water from Storage Tank No. 1 into Zone 1 through an interconnection near the intersection of Silverado Trail and Deer Park Road. As water enters Zone 1, water levels inside Storage Tank No. 2 are replenished.¹⁰ Both storage tanks are located above Zone 1 and generate pressure through gravity.

St. Helena draws water from the Stonebridge WTF throughout the year to supplement production at the Louis Stralla WTP. Groundwater treated at the Stonebridge WTF enters the distribution system through a direct interconnection to Zone 1 near the crossing of Pope Street and the Napa River.

¹⁰ Storage Tank No. 2 can also be recharged by a booster pump station located at Storage Tank No. 1 if its storage levels are too low and/or storage levels at Storage Tank No. 1 are too high.

St. Helena – Distribution Storage Capacity	
Storage Tank No. 1:	1.4 million gallons
Storage Tank No. 2:	2.7 million gallons
Zone 3 Storage Tank:	10,000 gallons
Meadowood Storage Tank No. 1:	66,000 gallons
Meadowood Storage Tank No. 2:	66,000 gallons
Meadowood Storage Tank No. 3:	66,000 gallons
TOTAL	4,308,000 gallons *

* Total does not include storage capacity at Louis Stralla WTP's clearwell tank (84,700 gallons).

RATE SCHEDULE

St. Helena's water customers are charged two bi-monthly fees for water service: a tiered usage charge and a fixed service charge. The usage charge is divided between inside and outside city customers as well as residential and non-residential customers. This charge is based on the amount of water delivered and is measured in units of one hundred cubic feet. The service charge is also divided between inside and outside city customers and is based on meter size. In addition, a bi-monthly pumping surcharge is applied to customers located within portions of St. Helena's service area requiring the use of pumping facilities. The pumping surcharge is based on the amount of water delivered to all customers served by a common special reservoir or pumping facility and is applied to each customer in measurements of one hundred cubic feet. Minimum connection fees are based on meter size and are divided between inside and outside customers as well as complete and partial service connections. Partial service connections typically involve subdivision developments where a service pipe is already in place.

St. Helena – Rate Schedule	
Inside Usage Fees	
Residential:	\$1.16 for 0 to 20 hcf \$1.89 for 21 to 40 hcf \$1.94 for 41 to 60 hcf \$2.05 for 61 to 80 hcf \$2.31 for 81 to 120 hcf \$2.89 for 121 and more hcf
Non-Residential: (based on entry level meter size)	\$1.63 for 0 to 20 hcf \$1.89 for 21 to 40 hcf \$2.00 for 41 to 80 hcf \$2.10 for 81 to 150 hcf \$2.21 for 151 to 250 hcf \$2.31 for 121 and more hcf
Outside Usage Fees	

1.5-inch:	\$650
Pumping Surcharge (based on hundred cubic feet)	
0-300:	\$0.851 each customer
301-400:	\$0.683
401-500:	\$0.588
501-600:	\$0.504
601-700:	\$0.420
701-800:	\$0.378
801-900:	\$0.347
901-1000:	\$0.305
1001-1100:	\$0.263
1101-1200:	\$0.236
1201-2500:	\$0.232
2501-3000:	\$0.224
3001-3500:	\$0.219
3501-4000:	\$0.204
4001-4500:	\$0.190
4501-5000:	\$0.182
5001-5500:	\$0.173
5501-6000:	\$0.169
6001-6500:	\$0.161
6501-7000:	\$0.155
7001-7500:	\$0.151
7501-8000:	\$0.144
Above 8000:	\$0.144
Meadowood Maintenance Surcharge	
Per Residential Unit:	\$26.25
Meadowood Complex:	\$2,625.00

* A hundred cubic feet (hcf) is equivalent to 748 gallons.

FINANCIAL

St. Helena's Water Enterprise Fund has an approved operating budget for 2002-2003 of \$2,841,528. The fund is comprised of seven components: capital improvements, distribution, administration, water sources, treatment, debt services, and the Stonebridge Well. Primary expenses include employee payroll, capital improvements, utilities, and treatment and distribution supplies. The City's anticipated revenue for 2002-2003 is \$2,256,365. Revenue sources include water sales, investment earnings, and operating transfers. The City maintains an informal reserve policy establishing an operating reserve equal to 15% of annual expenditures along with rate stabilization and capital replacement reserves that are collectively capped at \$900,000 per year. As of July 2002, the City's Water Enterprise Fund's cash reserve balance was \$2,203,122.

WRITTEN DETERMINATIONS

In anticipation of reviewing and updating St. Helena's sphere of influence, and based on the above-mentioned information, the following written determinations are intended to fulfill the requirements of Government Code §56430. When warranted, some determinations include supplemental information listed in italics to provide context to the underlying service factor. A review of St. Helena's sphere of influence will be included as part of a future study.

Infrastructure Needs or Deficiencies:

1. Through its local water supplies, the City of St. Helena has an adequate supply of water to meet existing and projected water demands under normal conditions within the timeframe of this study.
2. The City of St. Helena requires additional water supplies to meet existing and projected water demands during periods of consecutive dry years and critically dry years.
3. The City of St. Helena should continue to pursue opportunities to increase and enhance its available water supply while reducing system demands by expanding its conservation efforts. These efforts will help to ensure an adequate supply of water during periods of below normal and dry year conditions.
4. The City of St. Helena's water supply is dependent on local surface and groundwater supplies. To enhance its available supply, St. Helena should continue to explore opportunities to arrange for the delivery of its recent purchase of State Water Project entitlement. The addition of State Water Project entitlements would help St. Helena conserve and maximize its local water resources and provide greater flexibility in meeting future water demands.
5. The City of St. Helena relies on groundwater to help meet existing and projected water demands within its service area. Although this source has proven reliable, there is limited information relating to the long-term ability of the affected groundwater basin to sustain demands as well as the impact on adjacent users. An objective evaluation is needed to determine reasonable production capacities for the affected groundwater basin to protect against overdraft and to preserve its long-term beneficial use.
6. The City of St. Helena recently approved the construction of a water treatment facility for use at Lower Reservoir, which will enable the City to convert its water right to York Creek into an additional potable water source. This conversion will help St. Helena address its existing water supply deficits during below normal and dry year conditions and may diminish the City's need to use groundwater to meet future system demands.

Water drawn from York Creek is currently stored at the Lower Reservoir and used as a raw water source for local landscaping purposes.

7. The City of St. Helena should work with the City of Napa to renew its emergency agreement for potable water supplies. Renewal of this agreement would help protect St. Helena against future water shortages – in the event either of its water treatment facilities become impaired – without depleting its stored reserves.
8. The City of St. Helena has adequate treatment capacity to independently meet existing and projected maximum day water demands within the timeframe of this study.

St. Helena's maximum day demand in 2002 was 3.73 million gallons, while its two water treatment facilities collectively provide a daily treatment capacity of 4.24 million gallons. This treatment capacity will enable St. Helena to independently meet projected maximum day water demands of 4.22 million gallons in 2010.

9. The City of St. Helena has adequate treated water storage capacity to independently meet existing and projected maximum day water demands within the timeframe of this study. This capacity will help to ensure adequate reserves are available during an emergency or interruption in service.

St. Helena's maximum day demand in 2002 was 3.73 million gallons, while its existing treated water storage facilities provide a total storage capacity of 4.31 million gallons. This treated water storage capacity will enable St. Helena to independently projected maximum day water demands of 4.22 million gallons in 2010.

10. The City of St. Helena requires improvements to its distribution system to account for the significant disparity between recent water production and actual water demand within its service area.

In 2002, St. Helena produced approximately 2,291 acre-feet of potable water, while delivering approximately 1,956 acre-feet to its metered service connections. This disparity accounts for approximately 335 acre-feet of unaccounted water.

11. The City of St. Helena is scheduled to begin providing reclaimed water service in 2005. The use of reclaimed water within St. Helena's service area is an important component in strengthening its water conservation efforts and should alleviate future potable water demands among agricultural and landscape customers.

St. Helena's reclamation project is planned to be implemented over three construction phases and will consist of tertiary recycled water produced and distributed from its wastewater treatment plant. Aggregately, St. Helena anticipates implementation of this program resulting in the annual savings of approximately 1,000 acre-feet of potable water; potable water conserved by reclamation will then be available and added to the City's potable water supply.

12. Reclamation is a beneficial and efficient use of existing water resources and will provide credence to the City of St. Helena's water conservation efforts.
13. Evaluation of the City of St. Helena's reclamation program and its actual impact on potable water demands should be included in future studies.

Growth and Population Projections:

1. The City of St. Helena evaluates its water service capacities using reasonable demand projections detailed in its *Urban Water Management Plan (2003)*.
2. The calculation formula codified in Title 22 of the California Code of Regulations §64412(a)(2) is an appropriate method in estimating the total population served by the City of St. Helena's water service system. The population served by St. Helena's water system based on this calculation method is 8,111.

Financing Constraints and Opportunities:

1. The City of St. Helena is scheduled to begin providing reclaimed water service to existing potable water customers within the next several years. Reclamation will offer agricultural and landscape customers a suitable water source at an alternative rate, while reducing the draw upon St. Helena's overall supply of potable water.
2. As the City of St. Helena begins to develop reclaimed water service within its service area, future studies should evaluate the financial impact diminished potable water sale revenues has on the City's water service operations.
3. The City of St. Helena has been successful in supplementing its capital reserves with outside financing to help cover the costs of implementing needed capital improvements.

Cost Avoidance Opportunities:

1. The City of St. Helena is a member of the Napa County Flood Control and Water Conservation District's technical advisory committee, known as "Watrtac." This committee provides NCFCWCD with a consensus among the five cities and County as it relates to current and future water issues affecting Napa County. This advisory committee provides St. Helena the opportunity to share costs with other participating agencies on projects of mutual interest and facilitates the exchange of service information.
2. The City of St. Helena is a funding participant in Napa County Flood Control and Water Conservation District's "2050 Study." The study's objective is to identify current and projected water demands within each participating agency's service area as well as document agricultural demands in unincorporated areas served by groundwater. This study will also examine the feasibility of pursuing cooperative water supply projects aimed at meeting countywide demands through 2050. St. Helena will benefit from the study and should continually explore collaborative opportunities aimed at identifying new and improved water supplies.

Opportunities for Rate Restructuring:

1. The City of St. Helena has made a concerted effort to maintain low water rates by limiting operational and capital expenditures and relying on outside financing to help fund improvement projects. As a result, St. Helena's water rates, which were last increased in 2001, remain significantly lower than the rates offered by other public water agencies in Napa County.
2. It is anticipated that the City of St. Helena will increase its water service rates within the next year to support increased operational and maintenance costs and help fund needed capital improvement projects. This rate increase may be followed by an additional tiered increase based on the recommendations of a rate study scheduled to begin in 2004. Notably, this rate study will examine revenue requirements for St. Helena to help cover costs associated with its comprehensive reclamation project. Future studies should examine the relationship between these anticipated increases in water rates with St. Helena's ability to encourage water conservation while generating sufficient revenues to meet cost of service.
3. Tiered increases to the City of St. Helena's water rate schedule is a fair and equitable approach to passing increases in cost to the customer while maintaining the solvency of its water system operations.

Opportunities for Shared Facilities:

1. The City of St. Helena should explore opportunities to share costs with the Cities of Calistoga and Napa to allow the City to take delivery of its recently purchased annual entitlement to the State Water Project through these agencies' existing facilities. Specifically, this evaluation should examine system requirements and costs needed to improve Calistoga and Napa's existing treatment and conveyance facilities in order for St. Helena to take delivery of its State Water Project entitlement while addressing existing and future service needs of the other two agencies. This arrangement would enable all three agencies to share in the costs of mutually beneficial improvements to their respective water systems and would eliminate the need for St. Helena to develop new and duplicative infrastructure.

Though an existing service agreement, Napa treats and conveys Calistoga's annual allocation of State Water Project entitlement through an interconnection between the two agencies distribution systems located south of St. Helena. In exchange, Calistoga reimburses Napa for the capital and delivery costs association with its water system in proportion to the amount of water delivered. Improvements to both agencies facilities are needed to increase system capacity in order for Calistoga to receive its full allocation of entitlement.

Government Structure Options:

1. The City of St. Helena is the only public agency providing water service within its jurisdictional boundary. There are two other public agencies empowered to provide water service whose jurisdictions overlap that of St. Helena: the Napa County Flood Control and Water Conservation District and Napa County Resource Conservation District. Both of these agencies have elected not to offer water service, and have expressed no intentions of doing so in the foreseeable future.
2. Because the City of St. Helena's adopted jurisdictional and sphere of influence boundaries are nearly conterminous, and based on its existing water supply deficits during periods of below normal and dry years conditions, it is not anticipated that the City will pursue a change in its organization within the timeframe of this study. However, in the event a change in organization is proposed, St. Helena would need to address its ability to provide water service to the subject territory without adversely impacting the service levels of existing customers.

Evaluation of Management Efficiencies:

1. The City of St. Helena provides an annual summary of past and projected revenues and expenditures for its water service operations as part of its annual budget. The budget is adopted following internal reviews and several public study sessions in which members of the public are allowed to comment and offer suggestions with respect to expenditures relating to water service. In addition to enhancing the accountability of elected and appointed officials, St. Helena's budget process provides a clear directive towards staff with respect to prioritizing city resources and helps to educate its constituents with respect to funding public services.
2. The City of St. Helena has sufficient capital reserves to finance necessary upgrades and improvements to its water system; reserves are generated from surplus revenue drawn from water sales and availability charges. Applying surplus revenue from these sources is a fair and equitable approach to passing capital expenditures to ratepayers without incurring or relying on loans, special assessments, or bonded indebtedness to fund needed improvements.
3. The City of St. Helena's recently adopted capital improvement project, which includes 18.9 million dollars for projects aimed at upgrading and improving its water service operations through 2010, was prepared by staff and demonstrates a reasonable effort on behalf of management to address and update water quality and service objectives in a timely and efficient manner.

Notable expenditures includes the construction of the first two phases of St. Helena's comprehensive reclaimed water service project (9.6 million) and a water treatment plant at Lower Reservoir (1.0 million).

4. The City of St. Helena requires an update to its *Master Water Plan (1987)* to account for recent augmentations to its water service operations. An updated master water plan would help provide clarity to St. Helena's water services and facilities and improve its long-term planning by coordinating future service requirements with the City's most recently adopted general plan.

Local Accountability and Governance:

1. The City of St. Helena City Council meetings are conducted twice a month and are open to the public. Public inquiries involving water service operations can be addressed to the Council at this time. Regularly scheduled council meetings provide an opportunity for St. Helena's constituents to ask questions of their elected representatives, while helping to ensure that service information is being effectively communicated to the public.

2. The City of St. Helena makes reasonable efforts to maintain public dialogue with its constituents regarding its water service operations. These efforts facilitate local accountability and contribute towards public involvement in local governance.

These efforts include inserting news inserts with billing information and posting pertinent service information on its website, including St. Helena's Urban Water Management Plan (2003) and its most recent "water quality report." Customers can visit or call St. Helena's administration office during regular business hours to discuss questions involving their water bill or speak with water operations personnel regarding service conditions. In addition, designated personnel are on call 24 hours a day to respond to water service related emergencies.

3. The City of St. Helena has an adopted multi-phased water shortage contingency plan designed to reduce system demands based on storage levels at Bell Canyon Reservoir. The contingency plan is comprised of voluntary and mandatory measures aimed at helping St. Helena maximize and conserve its local water resources during periods of below normal and dry year conditions when supplies are limited. This plan strengthens St. Helena's accountability to the public by reminding its constituents of the importance of water conservation and provides clear directives toward staff with respect to managing supplies during water shortages.
4. The City of St. Helena currently provides water service to approximately 355 connections outside its jurisdictional boundary. Although St. Helena no longer approves new connections or water main extensions for outside users, the City should continue to include the service demands of these users in their water supply analysis.
5. The City of St. Helena is the only municipality in Napa County that uses groundwater as part of its water supply. The County of Napa has an adopted policy that promotes the preservation of groundwater supplies for agricultural use while discouraging the use of groundwater for urban purposes. Although it is not subject to this policy, St. Helena should evaluate its continued use of groundwater in comparison to developing new surface water supplies to meet existing and future system demands. This evaluation will provide greater context to St. Helena's decision making process and improve its regional accountability.
6. The City of St. Helena's administration and water service operations are maintained and managed by a responsive and professional staff. These characteristics enhance accountability and cultivate desirable working relationships with members of the public as well as other agencies.